

Appl. No. : 10/689,544  
Filed : October 20, 2003

### AMENDMENTS TO THE CLAIMS

**Please cancel Claim 1 without prejudice. Please add new Claims 55 and 56 as follows.**

#### Claims 1-54 (Canceled)

55. (New) An injection laser comprising at least one gain region having a longitudinal gain axis and outputting laser radiation, said injection laser comprising:

a laser heterostructure comprising:

an active layer forming said at least one gain region;  
cladding on opposite sides of said active layer, and  
ohmic contacts for electrical connection to said heterostructure;

at least one radiation inflow region comprising at least one portion adjoining said laser heterostructure that is transparent to said laser radiation, said radiation inflow region having a refractive index  $n_{\text{RIR}}$  and being located on at least one side of said active layer with said cladding separating said active layer from said radiation inflow region; and

reflectors that together form an optical resonator at least part of which coincides with at least part of said radiation inflow region and at least part of said gain region such that lasing occurs in said radiation inflow region,

wherein said laser heterostructure and said adjoining radiation inflow region together have an effective refractive index  $n_{\text{eff}}$  such that  $n_{\text{RIR}}$  exceeds  $n_{\text{eff}}$ .

56. (New) An injection laser comprising at least one gain region having a longitudinal gain axis and outputting laser radiation at an oblique angle  $\phi$  with respect to said longitudinal gain axis, said injection laser comprising:

a laser heterostructure comprising:

an active layer forming said at least one gain region;  
upper and lower cladding layers respectively above and below said active layer, and

ohmic contacts for electrical connection to said heterostructure;

a radiation inflow region having a refractive index  $n_{\text{RIR}}$  and being located above said upper cladding, said laser radiation being output through said radiation inflow region; and

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reflectors that together form an optical resonator at least part of which coincides with at least part of said radiation inflow region and at least part of said gain region such that lasing occurs in said radiation inflow region,  
wherein said laser heterostructure and said adjoining radiation inflow region together have an effective refractive index  $n_{\text{eff}}$  such that light leaks from said gain region into said radiation inflow region for lasing therein.